

REMARKS

This paper is responsive to the Office Action dated November 16, 2005 (the “Office Action”).

Claims 1-20 were previously pending.

Claims 1-20 stand rejected.

Claim 1 has been amended to more clearly indicate the claimed subject matter. The amendment adds no new matter and is fully supported by the originally filed specification.

No claims have been added or canceled in this paper.

Accordingly, claims 1-20 remain pending.

Claims 1-20 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Publication No. 2004/0123063 by Dalal et al. (“*Dalal*”). Claims 12-19 stand further rejected under 35 U.S.C. § 103(a) as being obvious over *Dalal* in view of “Structured Computer Organization, Second Edition,” by Tanenbaum (Prentice-Hall, Inc., 1984) (“*Tanenbaum*”).

While not conceding that the cited references qualify as prior art, but instead to expedite prosecution, Applicant has chosen respectfully to address the rejection in the Office Action as follows. Applicant reserves the right, for example in a continuing application, to establish that one or more of the cited references do not qualify as prior art as to an invention embodiment previously, currently, or subsequently claimed. Applicant respectfully submits that the pending claims are patentable and respectfully requests reconsideration of the pending rejections in view of the amendments and remarks presented herein.

*Rejections under § 102(e)*

Claims 1-20 stand rejected under § 102(e) as being anticipated by *Dalal*. While not conceding the validity of these rejections, but instead to expedite prosecution, Applicant has chosen to amend claim 1 as indicated above. This amendment is made without prejudice against

or disclaimer of the subject matter covered in the previous version of this claim, and Applicant reserves the right to pursue the subject matter of the previous version of this claim, for example in a continuing application. Applicant respectfully submits that the claims are allowable under § 102(e) because the cited sections of *Dalal* do not disclose each of the limitations of the pending claims.

The Office Action identifies an “intent 1122” from *Dalal* as a “description of a data volume layout” from independent claim 1. Office Action at 3. However, even if this identification is correct (and Applicant does not concede this point), the cited sections of *Dalal* fail to disclose various limitations of independent claim 1.

For example, amended independent claim 1 includes a limitation of **“first, second and third devices each storing a respective copy of the data volume layout description or respective modified versions thereof in respective memories of the first, second and third devices.”** This limitation, among others, is not disclosed in the cited sections of *Dalal*.

On page 4, the Office Action cites FIG. 22 and the following sections from *Dalal*.

[0271] FIG. 23 shows an example of user requirements 2210, a capability specification 2220, a logical volume configuration 2360, intent 2350, and commands 2370 to configure a logical volume 2382 in accordance with one embodiment of the present invention. Assume that the same user requirements 2210 are specified, producing the same capability specification 2220, but that the available storage information 2330 is different than the example shown in FIG. 22.

[272] The rules of capability implementation information 2340 are selected by examining available storage information 2330. Available storage information 2330 differs from available storage information 2230 in FIG. 22. Available storage information 2330 indicates that the storage environment in which the logical volume is to be configured includes the following: a striped disk array, Disk Array A, has ten columns (disks) across which data can be dispersed, one path to each disk, and a controller C3; Disk Array B includes fifteen disks, a controller C1, and one path to each disk; and Disk Array C includes three disks, one path to each disk, and a controller C4; and Disk Array D has one path to each of 15 disks and a controller C2.

[0273] None of the storage devices available provides multiple paths, so path reliability is implemented by using a different storage device for each set of mirrors. To meet user requirements 2210, Disk Array A alone is not suitable, unless configured using software, because Disk Array A does not provide either 15 columns or mirroring. Disk Array B has 15 disks available for striping and one controller, but is not striped. Disk Array C includes only three disks, not sufficient for providing the 30 disks that are needed. Disk Array D provides a second controller and another 15 disks. The combination of disk arrays B and D is selected to implement the logical volume, and

logical volume configuration 2360 is produced. Mirrored stripes are added using software configuration.

*Dalal* at paras. 271-273.

The above-reproduced material from *Dalal* may be read as teaching that a system may include three or more disk arrays. For example, FIG. 22 of *Dalal* mentions examples of Disk Arrays 1-3 (block 2230), and FIG. 23 of *Dalal* mentions examples of Disk Arrays A-D (block 2330). *Dalal* may also be read as teaching that an intent 2250 may be preserved, to be stored in physical storage device(s) 2280 of FIG. 22 (para. 265). Similarly, *Dalal* may also be read as teaching that an intent 2350 may be preserved, to be stored in physical storage device(s) 2380 of FIG. 23 (para. 275).

*Dalal* does not disclose, however, first, second and third devices *each storing a respective copy* of the data volume layout description or respective modified versions thereof. Since this limitation is absent from the cited sections of *Dalal*, independent claim 1 and all claims dependent therefrom are allowable under § 102(e).

As another example, dependent claim 8 includes a limitation of **“the first data storage system accessing the data volume layout description or the modified version thereof stored in memory of the first data storage system in response to receiving the write I/O transaction.”** The Office Action proposes that this limitation is disclosed in *Dalal*. Office Action at 10.

Applicant respectfully disagrees. The cited portion of *Dalal* states that “Each logical write must be translated to n physical writes to each of the n mirrors. All n writes can be issued concurrently, and all will finish in about the same time.” *Dalal* at para. 217. The Office Action interprets this statement as indicating that the “data volume layout description” is accessed “in response to receiving a write I/O transaction or transaction [logical write].”

However, as noted above, the purported data volume description in the cited sections of *Dalal* is an “intent 1122.” The cited portion of *Dalal* does not indicate or suggest an access of the intent 1122, or an access of any other intent, in response to receiving a write I/O transaction. Thus, the cited portion of *Dalal* does not disclose “accessing the data volume layout description

or the modified version thereof.” This limitation of claim 8 is therefore absent from the cited sections of *Dalal*. Accordingly, claim 8 is allowable under § 102(e).

At least for similar reasons, independent claims 12 and 18-20 and all claims dependent therefrom are also allowable under § 102(e). Accordingly, Applicant respectfully requests that the rejections of these claims under § 102(e) be withdrawn.

#### Rejections under § 103(a)

Claims 12-19 stand further rejected under § 103(a) as being obvious over *Dalal* in view of *Tanenbaum*.

Applicant requests removal of *Dalal* as a reference under § 103(c). *Dalal* was filed after November 29, 1999 and thus § 103(c) applies. *Dalal* and the claimed subject matter were, at the time the invention in the application for patent was made, owned by the same entity or subject to assignment to the same entity, namely VERITAS Operating Corporation, of Mountain View, California. Copies of these assignments are enclosed. (The assignment for *Dalal* is recorded in part at reel/frame 016915/0909, 013960/0477, and 016615/0794. The assignment for the present application (No. 10/696,622) is recorded at reel/frame 014652/0767.) As § 103(c)(1) states, “Subject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.”


At least in view of the removal of *Dalal* as a reference under § 103(c), Applicant respectfully submits that claims 12-19 are allowable under § 103(a). Accordingly, Applicant respectfully requests that the rejections under § 103(a) be withdrawn.

#### CONCLUSION

Applicant submits that all claims are now in condition for allowance, and an early notice to that effect is earnestly solicited. Nonetheless, should any issues remain that might be subject

to resolution through a telephonic interview, the Examiner is requested to telephone the undersigned.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P. O. Box 1450, Alexandria, Virginia, 22313-1450, on February 16, 2006.

 2006 Feb 16  
Attorney for Applicant Date of Signature

Respectfully submitted,



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